

Supplementary material

Antibiotic search list

- Amoxicillin
- Cefixime
- Ceftriaxone
- Cephalexin
- Ciprofloxacin
- Co-amoxiclav/ augmentin
- Co-trimoxazole/bactrim
- Dicloxacillin
- Doxycycline
- Erythromycin
- Metronidazole
- Norfloxacin
- Penicillin V
- Roxithromycin
- TC mycin/ tetracycline

Table S1: ICD 10 codes for infection used for the inclusion criteria

Code	Description	Excluded code (number)
A00-B99	Certain infectious and parasitic diseases	A15 (167), A16 (29), A18 (7), A31.9 (1), B18 (18), B24 (85), B85 (671)
G00-G07	Inflammatory diseases of the central nervous system	
H00-01	Hordeolum, chalazion and other inflammation of the eyelid	H01.1 (35)
H05.0	Acute inflammation of orbit	
H10	Conjunctivitis	
H60-H70	Otitis externa, otitis media and mastoiditis	H61 (112)
H72-73	Perforation and other disorders of the tympanic membrane	H73.9 (2)
J00-43	Respiratory tract infections	J30 (150), J31 (8), J33 (1), J35.1 (1)
J47	Bronchiectasis	
K05	Gingivitis and periodontal diseases	Exclude all (9,469)
K11-12	Diseases of salivary glands, stomatitis and related lesions	K11.1 (3), K11.88 (2), K11.9 (1), K12.0 (682), K12.1 (716)
K35-37	Appendicitis	
K57	Diverticulitis	K57 (2)

K61	Abscess of anal and rectal regions	
K81	Cholecystitis	
K83-85	Cholangitis and pancreatitis	
L00-08	Infections of the skin and subcutaneous tissue	
L20-22	Dermatitis	L20 (23), L21 (19), L22 (5)
L30.3	Infective dermatitis	
L70-73.2	Acne, rosacea follicular cysts and follicular disorders	
M00-03	Infectious arthropathies	M0013 (1), M0023 (1), M0167 (1), M020 (1)
M60	Myositis	M60.1-M6099 (3,604)
N10-11	Tubulo-interstitial nephritis	
N30	Cystitis	
N34	Urethritis and urethral syndrome	
N39.0	Urinary tract infection, site not specified	
N41	Inflammatory diseases of prostate	
N45	Orchitis and epididymitis	
N48-49	Other disorders of male genital organs	N48.9 (1)
N61	Inflammatory disorders of breast	
N70-76	Inflammatory diseases of female pelvic organs	
O08.0	Genital tract and pelvic infection following abortion and ectopic and molar pregnancy	
O23	Infections of genitourinary tract in pregnancy	
O85-86	Puerperal sepsis and other puerperal infections	
P35-9	Infections specific to the perinatal period	
R05	Cough	
R11	Nausea and vomiting	
R30	Pain associated with micturition	
R36	Urethral discharge	
R50	Fever	

Table S2: The number of initial presentations for each inclusion criteria and the percentage prescribed antibiotics during their illness episode

Age (years)	Number of presentations n/N (%)	Number of patients receiving an antibiotic prescription n/N (%)
0-4	18,073/83,659 (21.6)	6,110/18,073 (33.8)
5-11	13,775/83,659 (16.5)	6,318/13,775 (45.9)
12-24	10,533/83,659 (12.6)	5,888/10,533 (55.9)
25-39	11,025/83,659 (13.2)	6,167/11,025 (55.9)
40-64	23,134/83,659 (27.7)	11,843/23,134 (51.2)
65 or over	7,119/83,659 (8.5)	2,915/7,119 (41)
Total	83,659 (100)	39,241/83,659 (46.9)

Table S3: The number of presentations per age group and the percentage of each group prescribed an antibiotic

Inclusion criteria	Total initial presentations	Antibiotic prescription during the illness episode
History of fever n/N (%)	29,246/82,976 (35.3%)	11,725/29,246 (40.1%)
Temperature >37.5°C n/N (%)	10,508/76,644 (13.7%)	5,003/10,508 (47.6%)
ICD 10 code for infection n/N (%)	70,137/83,338 (84.2%)	27,234/70,137 (38.8%)
Antibiotic prescription n/N (%)	37,011/83,661 (44.2%)	39,242/83,661 (46.9%)

Diagnosis	Number of presentations n/N (%)	Number of antibiotic prescriptions during the illness episode n/N (%)
Respiratory		
Common cold	34,549/53,819 (64.2)	3,643/34,549 (10.5)
Acute sinusitis	30/53,819 (0.1)	25/30 (83.3)
Acute pharyngitis	13,080/53,819 (24.3)	11,607/13,080 (88.7)
Acute tonsillitis	3,459/53,819 (6.4)	3,014/3,459 (87.1)
Other URTIs	357/53,819 (0.7)	278/357 (77.9)
Acute LRTIs	663/53,819 (1.2)	541/663 (81.6)
Chronic bronchitis, emphysema & bronchiectasis	60/53,819 (0.1)	10/60 (16.7)
Cough	1,621/53,819 (3)	99/1,621 (6.1)
Sub total	53,819 (100)	19,217/53,819 (35.7)
Gastrointestinal		
Bacterial intestinal infections or intoxications	199/2,706 (7.4)	127/199 (63.8)
Viral enteritis	46/2,706 (1.7)	4/46 (8.7)
GE & colitis	2,412/2,706 (89.1)	1,614/2,412 (66.9)
Appendicitis	21/2,706 (0.8)	2/21 (9.5)
Other	9/2,706 (0.3)	2/9 (22.2)
Sialoadenitis	19/2,706 (0.7)	16/19 (84.2)
Sub total	2,706 (100)	1,765/2,706 (65.2)
Skin		
Infective dermatitis	85/4,060 (2.1)	70/85 (82.4)
Dermatophytosis	902/4,060 (22.2)	92/902 (10.2)
Other superficial mycoses	197/4,060 (4.9)	14/197 (7.1)
Candidiasis	101/4,060 (2.5)	23/101 (22.8)
Other	64/4,060 (1.6)	52/64 (81.3)
Scabies & infestations	52/4,060 (1.3)	8/52 (15.4)
Cellulitis & abscesses	841/4,060 (20.7)	618/841 (73.5)
Bacterial skin infections	533/4,060 (13.1)	464/533 (87.1)
Furuncles, caruncles & cysts	947/4,060 (23.3)	780/947 (82.4)
Other local infection of the skin & subcutaneous tissue	338/4,060 (8.3)	290/338 (85.8)
Sub total	4,060 (100)	2,411/4060 (59.4)
Eye		
Conjunctivitis	2,097/2,698 (77.7)	330/2,097 (15.7)
Hordeolum & chalazion	319/2,698 (11.8)	256/319 (80.3)
Other inflammation of the eyelid & orbit	268/2,698 (9.9)	98/268 (36.6)
Trachoma	14/2,698 (0.5)	5/14 (35.7)

Sub total	2,698 (100)	689/2,698 (25.5)
Ear		
Otitis externa	464/753 (61.6)	369/464 (79.5)
Otitis media	243/753 (32.3)	197/243 (81.1)
Mastoiditis	16/753 (2.1)	9/16 (56.3)
Perforation of tympanic membrane & other disorders	30/753 (4)	25/30 (83.3)
Sub total	753 (100)	600/753 (79.7)
Urogenital		
Acute tubulo-interstitial nephritis	36/1,871 (1.9)	32/36 (88.9)
Other	17/1,871 (0.9)	12/17 (70.6)
Cystitis, UTI, dysuria, urethritis & urethral syndrome	1,370/1,871 (73.2)	1,291/1,370 (94.2)
Other disorders of male genital organs	32/1,871 (1.7)	20/32 (62.5)
Other inflammatory disorders of female pelvic organs	148/1,871 (7.9)	115/148 (77.7)
Other inflammatory disorders of the vagina & vulva	268/1,871 (14.3)	149/268 (55.6)
Sub total	1,871 (100)	1,619/1,871 (86.5)
Other		
Bacterial	85/3,208 (2.7)	28/85 (32.9)
Unknown aetiology	33/3,208 (1)	14/33 (42.4)
Viral	728/3,208 (22.7)	153/728 (21)
Fungal	36/3,208 (1.1)	2/36 (5.6)
Protozoal	10/3,208 (0.3)	0/10 (0)
Parasitic	1,880/3,208 (58.6)	99/1,880 (5.3)
Nausea & vomiting	268/3,208 (8.4)	30/268 (11.2)
Fever of unknown or other origin	168/3,208 (5.2)	10/168 (6)
Sub total	3,208 (100)	336/3,208 (10.5)

Table S4: The number of presentations per diagnosis and system and whether antibiotics were prescribed for that illness episode

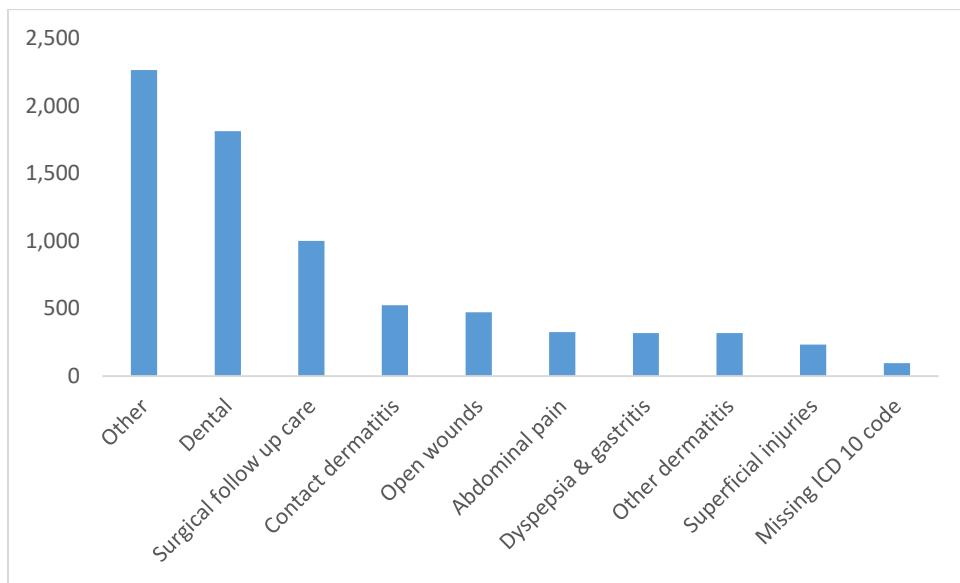


Figure S1: Single diagnoses used for antibiotic prescriptions without a history of fever, temperature or ICD 10 code for infection